REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED *(From - To)*
18-05-2009	Final	Sept. 2002 - Sept. 2006

4. TITLE AND SUBTITLE

Undergraduate Scholarship for Global Positioning Systems Research

5a. CONTRACT NUMBER

5b. GRANT NUMBER

N00014-02-1-1041

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)

Dunn, Derrek, B

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

North Carolina A&T State University
305 Dowdy Admin. Bldg., 1601 East Market Street
Greensboro, NC 27411

8. PERFORMING ORGANIZATION REPORT NUMBER

210021(4-41214)

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Office of Naval Research
Ballston Centre Tower One
800 North Quincy Street
Arlington, VA 22217-5660

10. SPONSOR/MONITOR'S ACRONYM(S)

ONR

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

02363--0042

12. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for Public Release

13. SUPPLEMENTARY NOTES

Final Report

14. ABSTRACT

The four-year project was to fund an undergraduate scholarship for Global Positioning Systems Research for Ms. Stacy Raynor and Mr. Dion Stallings. As part of the scholarship funding, Ms. Stacy Raynor and Mr. Dion Stallings, as a member of a research team, was involved in the development a wireless radio location system for use in an indoor environment is currently on-track.

15. SUBJECT TERMS

Global Positioning Systems, Scholarship

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Derrek B. Dunn
U	U	U	SAR	20	19b. TELEPHONE NUMBER *(Include area code)* (336) 334-7133 ext. 2395

Reset

INSTRUCTIONS FOR COMPLETING SF 298

1. REPORT DATE. Full publication date, including day, month, if available. Must cite at least the year and be Year 2000 compliant, e.g. 30-06-1998; xx-06-1998; xx-xx-1998.

2. REPORT TYPE. State the type of report, such as final, technical, interim, memorandum, master's thesis, progress, quarterly, research, special, group study, etc.

3. DATES COVERED. Indicate the time during which the work was performed and the report was written, e.g., Jun 1997 - Jun 1998; 1-10 Jun 1996; May - Nov 1998; Nov 1998.

4. TITLE. Enter title and subtitle with volume number and part number, if applicable. On classified documents, enter the title classification in parentheses.

5a. CONTRACT NUMBER. Enter all contract numbers as they appear in the report, e.g. F33615-86-C-5169.

5b. GRANT NUMBER. Enter all grant numbers as they appear in the report, e.g. AFOSR-82-1234.

5c. PROGRAM ELEMENT NUMBER. Enter all program element numbers as they appear in the report, e.g. 61101A.

5d. PROJECT NUMBER. Enter all project numbers as they appear in the report, e.g. 1F665702D1257; ILIR.

5e. TASK NUMBER. Enter all task numbers as they appear in the report, e.g. 05; RF0330201; T4112.

5f. WORK UNIT NUMBER. Enter all work unit numbers as they appear in the report, e.g. 001; AFAPL30480105.

6. AUTHOR(S). Enter name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. The form of entry is the last name, first name, middle initial, and additional qualifiers separated by commas, e.g. Smith, Richard, J, Jr.

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES). Self-explanatory.

8. PERFORMING ORGANIZATION REPORT NUMBER. Enter all unique alphanumeric report numbers assigned by the performing organization, e.g. BRL-1234; AFWL-TR-85-4017-Vol-21-PT-2.

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES). Enter the name and address of the organization(s) financially responsible for and monitoring the work.

10. SPONSOR/MONITOR'S ACRONYM(S). Enter, if available, e.g. BRL, ARDEC, NADC.

11. SPONSOR/MONITOR'S REPORT NUMBER(S). Enter report number as assigned by the sponsoring/ monitoring agency, if available, e.g. BRL-TR-829; -215.

12. DISTRIBUTION/AVAILABILITY STATEMENT. Use agency-mandated availability statements to indicate the public availability or distribution limitations of the report. If additional limitations/ restrictions or special markings are indicated, follow agency authorization procedures, e.g. RD/FRD, PROPIN, ITAR, etc. Include copyright information.

13. SUPPLEMENTARY NOTES. Enter information not included elsewhere such as: prepared in cooperation with; translation of; report supersedes; old edition number, etc.

14. ABSTRACT. A brief (approximately 200 words) factual summary of the most significant information.

15. SUBJECT TERMS. Key words or phrases identifying major concepts in the report.

16. SECURITY CLASSIFICATION. Enter security classification in accordance with security classification regulations, e.g. U, C, S, etc. If this form contains classified information, stamp classification level on the top and bottom of this page.

17. LIMITATION OF ABSTRACT. This block must be completed to assign a distribution limitation to the abstract. Enter UU (Unclassified Unlimited) or SAR (Same as Report). An entry in this block is necessary if the abstract is to be limited.

Close Out Report
Office of Naval Research
Period of Performance: 09/16/2002 to 09/15/2006
ONR Award # N00014-02-1-1041

Written by

Derrek Butler Dunn, Ph.D.
North Carolina Agricultural and Technical State University
Greensboro, North Carolina 27411

Introduction:

The material presented in the report is based upon work supported by Office of naval Research under award # N00014-02-1-1041 for the period of performance of September 16, 2002 to September 15, 2006.

Abstract:

Due to the significant deficit of under-represented minorities who pursue careers in navigation related fields, this grant requested funds to support the scholarship activities of a selected undergraduate student at North Carolina A&T State University. The funding supported the student's attendance at conferences to present technical papers, summer internship experiences, and paying of a stipend and tuition during the academic year to support the scholar's studies. Also, during the academic year the scholar had the opportunity to participate in other research activities that the principal investigator was conducting.

Outcomes:

The four-year project was to fund an undergraduate scholarship for Global Positioning Systems Research for Ms. Stacy Raynor and Mr. Dion Stallings. As part of the scholarship funding, Ms. Stacy Raynor and Mr. Dion Stallings, as a member of a research team, was involved in the development a wireless radio location system for use in an indoor environment is currently on-track. During the grant, the research team concentrated on evaluating various navigation related equipment to accomplish the task of indoor navigation. The evaluations included static and dynamic testing of candidate GPS and AHRS sensors using live signal data from GPS satellites and a CAST 100 GPS signal simulator. The results of the evaluations formed the basis for the publication discussed later in the document.

During the second year of the project, the research team settled on using a SIGTEC Subatto for GPS navigation and a Crossbow Altitude Heading and Reference Systems (AHRS) for dead reckoning navigation.

During the second year of the grant, the research team was broken into three groups as follows:
Group #1: Vernita Bryant
Group #2: Angela Marks and Stacy Raynor
Group #3: Dion Stallings and Danielle Goode

Group #1 was responsible for development of the intelligent algorithm that will decide which data stream (Sigtec Subatto or Crossbow AHRS) will be used to calculate the navigation solution. Group #2 was responsible for developing software to interface with the Crossbox AHRS and extract data from it. Group #3 was responsible for developing software to interface with the Sigtec subatto and extract data from it. All three groups were involved in integrating the GPS and AHRS unit into a semi-intelligent system for indoor navigation. During the third and fourth years of the grant, work continued on the integration of the SIGTEC Subatto and Crossbox Altitude Heading and Reference Systems (AHRS).

During the last two years of the grant, the undergraduate researchers major research effort centered on integrating wireless LAN IEEE 802.11 technology into the GPS and AHRS semi-intelligent system for indoor navigation. This addition to the system will allow the real-time

track of the subject on a graphical user display at a remote location. In addition, fine tuning of the integrating the GPS and AHRS semi-intelligent system for indoor navigation will be conducted. Addition work will be done to improve the integration of the GPS and AHRS units from a loosely coupled system to a more tightly coupled system using kalman filters.

Student Outcomes:

The Principal Investigator on the project made every effort to have diverse but highly qualified undergraduate and graduate students work on his funded research projects. The table below summary the status of students who are currently involved in the research project or who were members of the research team at one time during the life of the research grant.

- Ms. Stacy Raynor graduated from North Carolina A&T State University in May 2004. She earned a Bachelor of Science in Electronics Technology. Ms. Raynor earned a Master of Science Industrial Technology degree in Information Technology from North Carolina A&T State University in May 2006. She is currently employed with Northrop Grumman Corporation.
- Dion Stallings graduated from North Carolina A&T State University in May 2005 with a Bachelor of Science in Electronics Technology. He also completed a Bachelor of Science in Electrical Engineering from North Carolina A&T State University in May 2008. He is currently working as a Navigation Engineer with Rockwell Collins.

Summer Internships Experiences:

During the summer of 2003, Mr. Dion Stallings had an internship at the Navigation Research and development Center of the Applied Research Laboratory at Penn State University in Warminster, PA. In addition in summer 2004, Dion took a position as a summer intern at Rockwell. Funding from the grant gave supplemental support that enable Mr. Stallings to obtain these summer internships.

Ms. Stacy Raynor remained at A&T during the summers and worked in the Wireless Geo-location laboratory. She conducted research using and inertial navigation systems (INS) mdoulel possible application of the INS module.

Publications:

The research conducted under this grant has been present and published at several regional conferences. At all times, attempts were made to include and many times have students present the results of the research. Below is a summary of the presentations or publication made under this research grant:

-Dion Stallings, Derrek B. Dunn, and DeWayne Brown, "*Evaluating the CAST-1000 Satellite Signal Simulator using GPS receivers*", 11th Florida-Georgia Louis Stokes Alliance for Minority Participation in Science, Technology, Engineering and Mathematics, Jan. 29 to Feb. 1, 2004

-Michael Wright, Dion Stallings, and Derrek B. Dunn, "*The Effectiveness of Global Positioning Systems Electronic Navigation*", IEEE SoutheastCon 2003, April 4-6, 2003

-Stacy Raynor, Dion Stallings, and Derrek Dunn, *Position Accuracy of an Ashtech G8 GPS Sensor and an Earthmate GPS Receiver,* 6th Annual DOE EPSCoR and LS-LAMP Research Conference, Baton Rough, Louisiana, November 1-3, 2002

-Dion Stallings, Stacy Raynor, and Derrek Dunn, *Ashetch G8 GPS OEM Board,* First Annual North Carolina Alliance to Create Opportunity through Education (OPT-ED) Alliance Day, North Carolina State University, September 20, 2002.

- Dion Stallings and Stacy Raynor, and Derrek B. Dunn, "*Implementation of a Bandpass Filter using Microstrip Technology for a Wireless LAN*", NAFEO High Tech Student Expo 2002, Washington, DC, March 21, 2002

Student Resume:

STACY RAYNOR RICHARDSON

21789 Omeara Terrace Apt. 309
Ashburn, VA 20147

Mobile Phone: (571) 209-8345
stacy_raynor@hotmail.com

SUMMARY A career-oriented Information Technology specialist with strong work ethic and motivation to achieve experienced in working in a fast-paced environment utilizing outstanding oral and written communication skills while interfacing effectively with upper management, staff, and peers. Proven success and expertise in implementing technical solutions, supporting and troubleshooting hardware, software and networking issues to meet challenging business needs. Solid history of delivering outstanding customer service with a willingness to accept responsibility using decision-making and problem-solving skills in completing projects.

CLEARANCES TS/SCI SSBI (CI-POLOY)

EDUCATION

North Carolina Agricultural and Technical State University, M.S.
Major: Industrial Technology with concentration in Information Technology (3.9)
North Carolina Agricultural and Technical State University, B.S.
Major: Electronics Technology (3.48)

RELATED COURSES Telecommunications Management, Project Management, Ethical Issues, Concepts of Technological Innovations, Leadership Development, Regulatory Policy Issues, Problem Solving in Industrial Technology, Statistics I & II, Wide Area Networks, Wireless Application Protocol

PROFESSIONAL EXPERIENCE

2008-present Northrop Grumman Mission Systems Chantilly, VA
Systems Administrator
Responsible for identifying technical, programmatic and management processes that are a key to mission success. Maintain individual proficiency in system capabilities with the intent of expanding individual skills, contributions, and value to the team. Duties also include supporting the Help Desk operations by answering phones, maintaining trouble ticket system, and updating the database; develop and update standard operating procedures; oversee the collection and reporting of all related statistics; evaluate metrics data and analysis of outcomes; create Purchase Requests (PR) for items needed to support the program and following the PR throughout the process

2006-2008 Northrop Grumman TASC Herndon, VA
Network Engineer/Monitor
Provided maintenance, troubleshooting, analysis, and reporting for a growing, high value SIGINT communications system. Duties included: Monitored network usage and capacity;
Identified and recommended solutions for smooth continuous operation of network as capacity needs change; Utilized various engineering systems and signal processing equipment with significant emphasis on working with integrated engineering teams and customer contacts;
Monitored all hardware components to ensure terrestrial and possible satellite network communication facilities are operating at optimum levels; developed standard operating procedures, to include training incoming operators to a level of proficiency; Presented network status during daily meetings with customer and developmental level entities

2002-2008 North Carolina A&T State University Greensboro, NC
Adjunct Lecturer

Online Microcomputer Applications course is taught in which lectures and labs are prepared and presented on Microsoft Office material. Assist the Chairman of the Electronics, Computer, and Information Department with grading of assignments such as tests, labs, case studies, and analysis projects.

Graduate Research Assistant
Assisted professors with the development of curriculum material for the Undergraduate Information Technology Degree Program. Installed, maintained, and upgraded software for students to use in departmental computer labs. Assisted Chairman of the Electronics, Computer, and Information Department by performing administrative and secretarial duties along with grading assignments such as tests, labs, case studies, and homework. Performed research pertaining to Inertial Navigation Systems.

Undergraduate Researcher & Mentee
Performed research pertaining to Global Positioning Systems utilizing different types of GPS receivers. Presented oral presentations at research conferences. Graded and recorded students' tests, labs, and final project assignments.

TRAINING Cisco: CCNA I & II, Planet 3's: CWSP & CWAP, Comptia's: Security +, Windows 2000, XP, Microsoft Office 2003, Linux

INTERESTS & ACTIVITIES Member the of the National Society of Black Engineers, Member of Epsilon Pi Tau, Member of Honor Society of Phi Kappa Phi, Member of National Association of Industrial Technology

Stacy Raynor's Student AcademicTranscript

Transcript Data

STUDENT INFORMATION

Birth Date: 27-DEC
Student Type: Continuing

Curriculum Information

Current Program
Master of Science Indust Tech
College: Graduate Studies
Major and Department: Indust Tech (Info Tech), Electronics, Comp & Info Tech

This is NOT an Official Transcript

DEGREE AWARDED

Awarded: Bachelor of Science **Degree Date:** May 08, 2004

Curriculum Information

Primary Degree
College: School of Technology
Major: Electronic Technology

Awarded: Master of Science Indust Tech **Degree Date:** May 13, 2006

Curriculum Information

Primary Degree
College: Graduate Studies
Major: Indust Tech (Info Tech)

INSTITUTION CREDIT -Top-

Fall 2000

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	101	UG	TECHNICAL COMPUTERS I	A	2.000	8.00	
ECTL	101	UG	TECHNICAL COMP I LAB	A	1.000	4.00	
ENGL	100	UG	IDEAS & THEIR EXP I	A	3.000	12.00	
HIST	100	UG	HIST WORLD CIV PT I	A	3.000	12.00	
MATH	110	UG	PRE-CALCU ENGR SCIENCE	A	4.000	16.00	
MFG	191	UG	INTRO TO MFG PROCESSES	A	2.000	8.00	
MFGL	191	UG	INTRO TO MFG PROCESSES LAB	A	1.000	4.00	
PHED	200	UG	PERSONAL HEALTH	C	2.000	4.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	18.000	18.000	18.000	18.000	68.00	3.77
Cumulative:	18.000	18.000	18.000	18.000	68.00	3.77

Unofficial Transcript

Spring 2001

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
CHEM	106	UG	GENERAL CHEMISTRY VI	D	3.000	3.00	

Stacy Raynor's Student AcademicTranscript

ECT	120	UG	INTRO.ELECT.TECHNOLOGY	A	1.000	4.00
ECTL	120	UG	INTRO ELECT TECH LAB	A	1.000	4.00
ENGL	101	UG	IDEAS & THEIR EXP II	A	3.000	12.00
GCS	234	UG	COMPUTER AIDED DRAFTING-HONORS	A	1.000	4.00
GCSL	234	UG	COMPUTER AIDED DRAFTING LAB	A	2.000	8.00
MATH	131	UG	CALCULUS I	W	4.000	0.00

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	16.000	12.000	12.000	12.000	38.00	3.16
Cumulative:	34.000	30.000	30.000	30.000	106.00	3.53

Unofficial Transcript

Fall 2001

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	201	UG	TECHNICAL COMPUTERS II	W	2.000	0.00	
ECT	211	UG	ELECTRIC CIRCUITS I	B	2.000	6.00	
ECTL	201	UG	TECHNICAL COMP II LAB	W	1.000	0.00	
ECTL	211	UG	ELECTRIC CIRCUITS I LAB	C	1.000	2.00	
ENGL	200	UG	SURVEY HUMANITIES I-HONORS	A	3.000	12.00	
GCS	292	UG	TECHNICAL COMMUNICATIONS	A	3.000	12.00	
MATH	131	UG	CALCULUS I	A	4.000	16.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	16.000	13.000	13.000	13.000	48.00	3.69
Cumulative:	50.000	43.000	43.000	43.000	154.00	3.58

Unofficial Transcript

Spring 2002

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	201	UG	TECHNICAL COMPUTERS II-HONORS	A	2.000	8.00	
ECT	212	UG	ELECTRIC CIRCUITS II	B	2.000	6.00	
ECT	213	UG	DIGITAL CIRCUITS	C	2.000	4.00	
ECTL	201	UG	TECHNICAL COMP II LAB-HONORS	A	1.000	4.00	
ECTL	212	UG	ELECTRIC CIRCUITS II LABQ	B	1.000	3.00	
ECTL	213	UG	DIGITAL CIRCUITS LAB	C	1.000	2.00	
MATH	132	UG	CALCULUS II	D	4.000	0.00	E

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	13.000	9.000	9.000	9.000	27.00	3.00
Cumulative:	63.000	52.000	52.000	52.000	181.00	3.48

Unofficial Transcript

Fall 2002

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ACCT	203	UG	FUND ACCT DECISION MAKIN	B	3.000	9.00	
ECT	350	UG	COMMUNICATIONS SYSTEMS-HONORS	A	2.000	8.00	

Stacy Raynor's Student AcademicTranscript

ECT	355	UG	ELECT POWER & MACHINERY	B	2.000	6.00
ECT	665	UG	WIRELESS GEOLOCATION SYS I-HON	A	3.000	12.00
ECT	670	UG	COMM CIRCUIT DEV LAB-HONORS	A	3.000	12.00
ECTL	350	UG	COMMUN SYSTEMS LAB-HONORS	A	1.000	4.00
ECTL	355	UG	ELECT POWER & MACH LAB	B	1.000	3.00
SPCH	250	UG	SPEECH FUNDAMENTAL	B	3.000	9.00

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	18.000	18.000	18.000	18.000	63.00	3.50
Cumulative:	81.000	70.000	70.000	70.000	244.00	3.48

Unofficial Transcript

Spring 2003

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	312	UG	ACTIVE CIRCUTS I	C	2.000	4.00	
ECT	313	UG	ELECT MICROCOMP SYS I(ONLINE)	A	2.000	8.00	
ECTL	312	UG	ACTIVE CIRCUITS I LAB	C	1.000	2.00	
ECTL	313	UG	ELEC MICROCOMP SYS I LAB-ONLIN	A	1.000	4.00	
MATH	132	UG	CALCULUS II	C	4.000	8.00	
PHYS	225	UG	COLLEGE PHYSICS I	B	3.000	9.00	
PHYS	235	UG	COLLEGE PHYSICS I LAB	C	1.000	2.00	
PSYC	445	UG	INDUSTRIAL PSYCH-HONORS	B	3.000	9.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	17.000	17.000	17.000	17.000	46.00	2.70
Cumulative:	98.000	87.000	87.000	87.000	290.00	3.33

Unofficial Transcript

Summer I 2003

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	360	UG	INDUST MEASRMNTS&CONTS I	A	2.000	8.00	
ECTL	360	UG	INDUST MEASUREMENT/CONT LAB	A	1.000	4.00	
MFG	495	UG	STAT PROCESS/QUALITY CON	A	2.000	8.00	
MFGL	495	UG	STAT PROCESS/QUANTITY LAB	A	1.000	4.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	6.000	6.000	6.000	6.000	24.00	4.00
Cumulative:	104.000	93.000	93.000	93.000	314.00	3.37

Unofficial Transcript

Summer II 2003

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
CM	592	UG	PROJECT MANAGEMENT-ONLINE	A	3.000	12.00	
ECT	660	UG	SATELLITE/PERS COMM SYS-ONLINE	A	3.000	12.00	

Term Totals (Undergraduate)

Stacy Raynor's Student AcademicTranscript

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	6.000	6.000	6.000	6.000	24.00	4.00
Cumulative:	110.000	99.000	99.000	99.000	338.00	3.41

Unofficial Transcript

Fall 2003

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
BUAD	422	UG	MANAGEMENT CONCEPTS	B	3.000	9.00	
ECT	314	UG	ACTIVE CIRCUITS II	A	2.000	8.00	
ECT	598	UG	SENIOR PROJECT	A	3.000	12.00	
ECTL	314	UG	ACTIVE CIRCUITS II LAB	A	1.000	4.00	
OSH	393	UG	SAFETY MANAGEMENT	A	3.000	12.00	
PHYS	226	UG	COLLEGE PHYSICS II	B	3.000	9.00	
PHYS	236	UG	COLL PHYSICS II LAB	B	1.000	3.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	16.000	16.000	16.000	16.000	57.00	3.56
Cumulative:	126.000	115.000	115.000	115.000	395.00	3.43

Unofficial Transcript

Spring 2004

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	301	UG	TECHNICAL COMPUTERS III	A	2.000	8.00	
ECT	530	UG	COMPUTER NETWORKING I	A	2.000	8.00	
ECTL	301	UG	TECHNICAL COMPUTERS LAB III	A	1.000	4.00	
ECTL	530	UG	COMPUTER NETWORKING I LAB	A	1.000	4.00	
ENGL	201	UG	SURVEY HUMANIT II	A	3.000	12.00	
SOCI	100	UG	PRINCIPLES OF SOCIOLOGY	A	3.000	12.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	12.000	12.000	12.000	12.000	48.00	4.00
Cumulative:	138.000	127.000	127.000	127.000	443.00	3.48

Unofficial Transcript

Fall 2004

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	740	GR	REG/PLCY/ISSUES COM SYS-ONLINE	A	3.000	12.00	
ECT	759	GR	SPECIAL TOPICS IN ECT	A	3.000	12.00	
ITT	620	GR	TELECOMMUNICATIONS MANAGEMENT	A	3.000	12.00	
ITT	630	GR	COMPUTER NETWORKING II	A	3.000	12.00	

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	12.000	12.000	12.000	12.000	48.00	4.00
Cumulative:	12.000	12.000	12.000	12.000	48.00	4.00

Stacy Raynor's Student AcademicTranscript

Unofficial Transcript

Spring 2005

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ITT	600	GR	PROJECT MANAGEMNT-INFOR TECH	A	3.000	12.00	
ITT	601	GR	WIRELESS APPLICATION PROTO-ONL	A	3.000	12.00	
MSIT	610	GR	PROBLEM SOLVING IN IND.TECH-ON	A	3.000	12.00	
MSIT	779	GR	STAT/RSRCH MET IN INDUS TECH I	A	3.000	12.00	

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	12.000	12.000	12.000	12.000	48.00	4.00
Cumulative:	24.000	24.000	24.000	24.000	96.00	4.00

Unofficial Transcript

Dual Summer 2005

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	750	GR	TELECOMMUNICATIONS CO-OP	A	3.000	12.00	

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	3.000	3.000	3.000	3.000	12.00	4.00
Cumulative:	27.000	27.000	27.000	27.000	108.00	4.00

Unofficial Transcript

Fall 2005

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
CUIN	711	GR	METH & TECH OF RESEARCH-ONLINE	B	3.000	9.00	
ECT	788	GR	MASTER'S COMPREHENSIVE EXAM-ON	S	0.000	0.00	
ITT	685	GR	ETHICAL ISSUES-INFORMATION TEC	A	3.000	12.00	
MSIT	700	GR	CONCEPTS OF TECH.INNOVATIONS	A	3.000	12.00	
MSIT	740	GR	LEADERSHIP DEV. SEMINAR	A	3.000	12.00	

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	12.000	12.000	12.000	12.000	45.00	3.75
Cumulative:	39.000	39.000	39.000	39.000	153.00	3.92

Unofficial Transcript

Spring 2006

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	717	GR	SPEC.PROB/ADM. & SUP.	A	3.000	12.00	
ITT	745	GR	NETWORK SERV FOR THE ENTERPRIS	A	3.000	12.00	
ITT	765	GR	WIRELESS GEO-LOCATION SYSTEMS	A	3.000	12.00	

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	9.000	9.000	9.000	9.000	36.00	4.00

Stacy Raynor's Student AcademicTranscript

Cumulative:	48.000	48.000	48.000	48.000	189.00	3.93

Unofficial Transcript

TRANSCRIPT TOTALS (GRADUATE) -Top-

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Total Institution:	48.000	48.000	48.000	48.000	189.00	3.93
Total Transfer:	0.000	0.000	0.000	0.000	0.00	0.00
Overall:	48.000	48.000	48.000	48.000	189.00	3.93

Unofficial Transcript

TRANSCRIPT TOTALS (UNDERGRADUATE) -Top-

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Total Institution:	138.000	127.000	127.000	127.000	443.00	3.48
Total Transfer:	0.000	0.000	0.000	0.000	0.00	0.00
Overall:	138.000	127.000	127.000	127.000	443.00	3.48

Unofficial Transcript

RELEASE: 7.3.3

Dion Stallings' Student AcademicTranscript

Transcript Data

STUDENT INFORMATION

Birth Date: 18-JAN
Student Type: Re-Admit

Curriculum Information

Current Program
Bachelor of Science
College: School of Technology
Major and Department: Electronic Technology, Electronics, Comp & Info Tech

Secondary
Bachelor of Science
College: College of Engineering
Major and Department: Electrical Engineering, Electr & Computer Engineering

This is NOT an Official Transcript

DEGREE AWARDED

Awarded: Bachelor of Science **Degree Date:** Dec 17, 2005

Curriculum Information

Primary Degree
College: School of Technology
Major: Electronic Technology

Awarded: Bachelor of Science **Degree Date:** Dec 17, 2005

Curriculum Information

Primary Degree
College: College of Engineering
Major: Electrical Engineering

Sought: Bachelor of Science **Degree Date:**

Curriculum Information

Primary Degree
College: College of Arts & Sciences
Major: Undeclared

TRANSFER CREDIT ACCEPTED BY INSTITUTION -Top-

: Kirkwood Community College

Subject	Course	Title	Grade	Credit Hours	Quality Points	R
PSYC	445	INDUSTRIAL PSYCH	S	3.000		0.00

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	3.000	3.000	3.000	0.000	0.00	0.00

Unofficial Transcript

INSTITUTION CREDIT -Top-

Dion Stallings' Student AcademicTranscript

Fall 2000

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ENGL	100	UG	IDEAS & THEIR EXP I	B	3.000	9.00	
GEEN	100	UG	INTRO TO ENGINEERING	W	2.000	0.00	
HIST	100	UG	HIST WORLD CIV PT I	A	3.000	12.00	
HIST	202	UG	AFRICAN-AMER.SINCE 1877	B	3.000	9.00	
MATH	110	UG	PRE-CALCU ENGR SCIENCE	B	4.000	12.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	15.000	13.000	13.000	13.000	42.00	3.23
Cumulative:	15.000	13.000	13.000	13.000	42.00	3.23

Unofficial Transcript

Spring 2001

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	101	UG	TECHNICAL COMPUTERS I	A	2.000	8.00	
ECTL	101	UG	TECHNICAL COMP I LAB	A	1.000	4.00	
ENGL	101	UG	IDEAS & THEIR EXP II	B	3.000	9.00	
GCS	133	UG	INTRO TO DRAFTING TECH	A	1.000	4.00	
GCSL	133	UG	INTRO TO DRAFTTING TECH LAB	A	2.000	8.00	
MATH	131	UG	CALCULUS I	A	4.000	16.00	
PHED	104	UG	WEIGHT TRAINING	A	1.000	4.00	
PHED	200	UG	PERSONAL HEALTH	A	2.000	8.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	16.000	16.000	16.000	16.000	61.00	3.81
Cumulative:	31.000	29.000	29.000	29.000	103.00	3.55

Unofficial Transcript

Fall 2001

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
CHEM	106	UG	GENERAL CHEMISTRY VI	C	3.000	6.00	
CHEM	116	UG	GENERAL CHEMISTRY VI LAB	C	1.000	2.00	
ECT	211	UG	ELECTRIC CIRCUITS I	B	2.000	6.00	
ECTL	211	UG	ELECTRIC CIRCUITS I LAB	B	1.000	3.00	
GCS	234	UG	COMPUTER AIDED DRAFTING-HONORS	A	2.000	8.00	
GCSL	234	UG	COMPUTER AIDED DRAFTING LAB	A	2.000	8.00	
MATH	132	UG	CALCULUS II	B	4.000	12.00	
MFG	191	UG	INTRO TO MFG PROCESSES	A	2.000	8.00	
MFGL	191	UG	INTRO TO MFG PROCESSES LAB	A	1.000	4.00	
PHED	114	UG	BEGINNING GOLF	A	1.000	4.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	19.000	19.000	19.000	19.000	61.00	3.21
Cumulative:	50.000	48.000	48.000	48.000	164.00	3.41

Dion Stallings' Student AcademicTranscript

Unofficial Transcript

Spring 2002

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ACCT	203	UG	FUND ACCT DECISION MAKIN	A	3.000	12.00	
ECT	120	UG	INTRO.ELECT.TECHNOLOGY-HONORS	A	1.000	4.00	
ECT	201	UG	TECHNICAL COMPUTERS II-HONORS	A	2.000	8.00	
ECT	212	UG	ELECTRIC CIRCUITS II-HONORS	A	2.000	8.00	
ECT	213	UG	DIGITAL CIRCUITS-HONORS	A	2.000	8.00	
ECTL	120	UG	INTRO ELECT TECH LAB-HONORS	A	1.000	4.00	
ECTL	201	UG	TECHNICAL COMP II LAB-HONORS	A	1.000	4.00	
ECTL	212	UG	ELECT CIRCUITS II LAB-HONORS	A	1.000	4.00	
ECTL	213	UG	DIGITAL CIRCUITS LAB-HONORS	A	1.000	4.00	
SPCH	250	UG	SPEECH FUNDAMENTAL	A	3.000	12.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	17.000	17.000	17.000	17.000	68.00	4.00
Cumulative:	67.000	65.000	65.000	65.000	232.00	3.56

Unofficial Transcript

Summer II 2002

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	301	UG	TECHNICAL COMPUTERS III	B	2.000	6.00	
ECTL	301	UG	TECHNICAL COMPUTERS LAB III	B	1.000	3.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	3.000	3.000	3.000	3.000	9.00	3.00
Cumulative:	70.000	68.000	68.000	68.000	241.00	3.54

Unofficial Transcript

Fall 2002

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	312	UG	ACTIVE CIRCUTS I-HONORS	A	2.000	8.00	
ECT	313	UG	ELECT MICROCOMP SYS I	A	2.000	8.00	
ECT	350	UG	COMMUNICATIONS SYSTEMS-HONORS	A	2.000	8.00	
ECT	665	UG	WIRELESS GEOLOCATION SYS I-HON	A	3.000	12.00	
ECT	670	UG	COMM CIRCUIT DEV LAB-HONORS	A	3.000	12.00	
ECTL	312	UG	ACTIVE CIRCUITS I LAB-HONORS	A	1.000	4.00	
ECTL	313	UG	ELECT MICROCOMP SYS I LAB	A	1.000	4.00	
ECTL	350	UG	COMMUN SYSTEMS LAB-HONORS	A	1.000	4.00	
MFG	474	UG	POLYMER PROCESS I	B	2.000	6.00	
MFGL	474	UG	POLYMER PROCESS I LAB	B	1.000	3.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	18.000	18.000	18.000	18.000	69.00	3.83
Cumulative:	88.000	86.000	86.000	86.000	310.00	3.60

Dion Stallings' Student AcademicTranscript

Unofficial Transcript

Spring 2003

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECT	355	UG	ELECT POWER & MACHINERY	A	2.000	8.00	
ECTL	355	UG	ELECT POWER & MACH LAB	A	1.000	4.00	
ELEN	200	UG	ELEC CIR ANALYSIS	B	3.000	9.00	
GEEN	103	UG	COMPUTERS IN ENGINEERNIG	A	2.000	8.00	
HIST	334	UG	HONORS IN HISTORY - HONORS	W	3.000	0.00	
MATH	431	UG	INTRO TO DIFFEREN EQUAT-HONORS	A	3.000	12.00	
PHYS	241	UG	GENERAL PHYSICS I	B	3.000	9.00	
PHYS	251	UG	GENERAL PHYSICS I LAB - HONORS	B	1.000	3.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	18.000	15.000	15.000	15.000	53.00	3.53
Cumulative:	106.000	101.000	101.000	101.000	363.00	3.59

Unofficial Transcript

Fall 2003

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ELEN	300	UG	ELEC CIR ANAL SYNTH	B	3.000	9.00	
ELEN	306	UG	CIRCUITS & SYSTEMS LAB	B	2.000	6.00	
ELEN	320	UG	ELECTRONICS I	C	3.000	6.00	
GEEN	102	UG	INTRO TO COMPUTER PROGRAMMING	B	2.000	6.00	
MATH	231	UG	CALCULUS III	B	4.000	12.00	
PHYS	242	UG	GENERAL PHYSICS II	A	3.000	12.00	
PHYS	252	UG	GEN PHYSICS II LAB	A	1.000	4.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	18.000	18.000	18.000	18.000	55.00	3.05
Cumulative:	124.000	119.000	119.000	119.000	418.00	3.51

Unofficial Transcript

Spring 2004

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ELEN	327	UG	DIGITAL LOGIC	B	3.000	9.00	
ELEN	400	UG	LINEAR SYST & SIGNALS	A	3.000	12.00	
ELEN	425	UG	INTRO TO ELECTROMAGNETIC	A	3.000	12.00	
ELEN	460	UG	ELECTRONICS II	C	3.000	6.00	
FOLA	108	UG	ELEMENTARY JAPANESE I	C	3.000	6.00	
INEN	270	UG	ENGINEERING STATISTICS	A	3.000	12.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	18.000	18.000	18.000	18.000	57.00	3.16
Cumulative:	142.000	137.000	137.000	137.000	475.00	3.46

Dion Stallings' Student AcademicTranscript

Unofficial Transcript

Summer II 2004

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
CM	592	UG	PROJECT MANAGEMENT-ONLINE	A	3.000	12.00	
OSH	201	UG	INTRO TO OSH-ONLINE	A	3.000	12.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	6.000	6.000	6.000	6.000	24.00	4.00
Cumulative:	148.000	143.000	143.000	143.000	499.00	3.48

Unofficial Transcript

Fall 2004

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ECON	200	UG	PRINCIPLES OF ECONOMICS-MICRO	A	3.000	12.00	
ELEN	328	UG	DIGITAL LOGIC LABORATORY	A	1.000	4.00	
ELEN	427	UG	INTRO TO MICROPROC	A	3.000	12.00	
ELEN	459	UG	DIGITAL & DATA COMMUNICATIONS	W	3.000	0.00	
ELEN	466	UG	ELECTRONICS II LAB	B	1.000	3.00	
ELEN	686	UG	SPECIAL PROJECTS	A	1.000	4.00	
INEN	260	UG	ENGINEERING ECONOMY	A	2.000	8.00	
MEEN	313	UG	STATICS & MECHANICS OF MAT'RLS	B	3.000	9.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	17.000	14.000	14.000	14.000	52.00	3.71
Cumulative:	165.000	157.000	157.000	157.000	551.00	3.50

Unofficial Transcript

Spring 2005

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ELEN	450	UG	ELECTROM RAD MICRO	W	3.000	0.00	
ELEN	475	UG	APPLIED ENGINEERING ANALYSIS	B	3.000	9.00	
ELEN	598	UG	SENIOR DESIGN PROJECT I	B	3.000	9.00	
ELEN	657	UG	DIGITAL IMAGE PROCESSING	A	3.000	12.00	
ELEN	658	UG	DIGITAL IMAGE PROCESSING LAB	A	2.000	8.00	
ELEN	685	UG	SELECTED TOPICS IN ENGINEERING	A	3.000	12.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	17.000	14.000	14.000	14.000	50.00	3.57
Cumulative:	182.000	171.000	171.000	171.000	601.00	3.51

Unofficial Transcript

Summer I 2005

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
PHIL	260	UG	INTRO TO PHILOSOPHY-ONLINE	W	3.000	0.00	

Dion Stallings' Student AcademicTranscript

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	3.000	0.000	0.000	0.000	0.00	0.00
Cumulative:	185.000	171.000	171.000	171.000	601.00	3.51

Unofficial Transcript

Fall 2005

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points	R
ELEN	430	UG	POW SY EN CON EL MA	C	3.000	6.00	
ELEN	449	UG	INTRO TO COMMUNICATION SYSTEMS	B	3.000	9.00	
ELEN	459	UG	DIGITAL & DATA COMMUNICATIONS	B	3.000	9.00	
ELEN	599	UG	SENIOR DESIGN PROJECT II	B	3.000	9.00	
ENGL	200	UG	SURVEY HUMANITIES I	B	3.000	9.00	
ENGL	331	UG	WRITING FOR SCIENCE&TECH-ONLIN	A	3.000	12.00	
GEEN	100	UG	ENGINEERING DESIGN & ETHICS	A	2.000	8.00	
MEEN	413	UG	THERMO-FLUID SCIENCES	A	3.000	12.00	

Term Totals (Undergraduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	23.000	23.000	23.000	23.000	74.00	3.21
Cumulative:	208.000	194.000	194.000	194.000	675.00	3.47

Unofficial Transcript

TRANSCRIPT TOTALS (UNDERGRADUATE) -Top-

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Total Institution:	208.000	194.000	194.000	194.000	675.00	3.47
Total Transfer:	3.000	3.000	3.000	0.000	0.00	0.00
Overall:	211.000	197.000	197.000	194.000	675.00	3.47

Unofficial Transcript

RELEASE: 7.3.3